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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/343,406	06/30/1999	JOSEF ENDL	P564-9014	7886

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EXAMINER	
DIBRINO, MARIANNE NMN	
ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 03/10/2003

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/343,406	Applicant(s) ENDL ET AL.	
	Examin r DiBrino Marianne	Art Unit 1644	

-- The MAILING DATE of this communication appears on the cover sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *46-58* is/are pending in the application.

4a) Of the above claim(s) *55-58* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *46-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *08/374,468* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *filed 6/30/99*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/10/02 (Paper No. 25) has been entered.

2. Applicant's amendment filed 12/10/02 (Paper No. 25) is acknowledged and has been entered in part. Applicant's direction to replace Table III on page 7 in the specification has not been entered because there is no Table III on page 7 of the instant specification.

3. Applicant is reminded that claims 46-54 read on the elected species, SEQ ID NO: 2, and that upon consideration of the prior art, the search has been extended to include SEQ ID NO: 3 and SEQ ID NO: 19. Claims 55-58 remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 46-54 are currently being examined.

3. The disclosure is objected to because of the following informality:

Applicant is reminded that Table III in the instant specification (page 2 of Applicant's amendment filed 1/4/02) contains a spelling error. "ORβ1*0101" on line 3 should be "DRβ1*0101".

Appropriate correction is required.

4. Applicant is reminded that Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d). The certified copies have been filed in parent Application No. 08/374,468, filed on 1/18/95. Applicant's submission of translations of the said priority documents P4404629.8, P4403522.5 and P4418091.8 and the accompanying declarations of Sabine F. K. Town that the said translations are true and accurate are acceptable and have been entered.

5. Applicant's declaration filed 12/02/02 of no new matter in the amendments to the specification made on 1/4/02 is acceptable and has been entered.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Applicant is reminded of the Revised Interim Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 64, No. 244, pages 71427-71440, Tuesday December 21, 1999; the following rejection is set forth herein.

8. Claims 46-54 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The specification does not provide adequate written description of the claimed invention. The legal standard for sufficiency of a patent's (or a specification's) written description is whether that description "reasonably conveys to the artisan that the inventor had possession at that time of the. . .claimed subject matter", Vas-Cath, Inc. V. Mahurkar, 19 USPQ2d 1111 (Fed. Cir. 1991). In the instant case, the specification does not convey to the artisan that the applicant had possession at the time of invention of the claimed: (1) a peptide of at least 6 amino acids of an amino acid sequence selected from the group consisting of SEQ ID NO: 2, 3 and 20-39, including wherein the peptide includes anchor positions for binding to alleles of MHC class II molecules DR3 and DR4 recited in the instant claims, (2) a peptide or derivative thereof with length between 6 and 25 amino acids which exhibits a specificity or/and affinity which is equivalent to that of the peptide in "(1)", and includes anchor positions for binding to alleles of MHC class II molecules DR3 or DR4 recited in the instant claims, (4) pharmaceutical compositions of all the peptides/peptide derivatives aforementioned herein.

The instant claims encompass a peptide/derivative/pharmaceutical composition, thereof of at least 6 amino acid residues of an amino acid sequence of one of SEQ ID NO: 2, 3 or 20-39, or consisting of between 6 and 25 amino acids which comprises at least 6 amino acid residues of one of SEQ ID NO: 2, 3 or 20-39. The said peptide/derivative/pharmaceutical composition, thereof can comprise amino acid residues that flank the said sequences in the peptide or protein of origin, or can be any number of undisclosed and unrelated sequences, and the at least 6 amino acid residues may not be contiguous with each other in the peptide/derivative. There is insufficient disclosure in the specification on peptides of between 6 and 25 amino acids comprising at least 6 amino acid residues selected from the group consisting of SEQ ID NO: 2, 3 and 20-39.

The specification discloses SEQ ID NO: 2, 3 and 20-39 (especially sequence listing and Figures 1 and 2), but no peptides or peptide derivatives of at least 6 amino acids and up to 25 amino acids from one of SEQ ID NO: 2, 3 and 20-39, other than SEQ ID NO: 4-18 which are 12-mer, 14-mer, 18-mer and 20-mer peptide subsequences derived from SEQ ID NO: 2 and other than full length sequences of SEQ ID NO: 2, 3 and 20-39. The specification discloses, on page 7 of the instant specification, at the last paragraph that "anchor position" means an amino acid residue essential for binding to an MHC

molecule and in particular to an MHC molecule of classes DR3, DR4 or DQ. The specification further discloses at lines 8-10 of the last paragraph that the anchor positions for the DRB10401 binding motive [motif] are given in Hammer et al., Cell 74, 1993, pp 197-200. The specification does not disclose any 6-mer peptide sequences from any of SEQ ID NO: 2, 3 or 20-39. The sole 6-mer sequence disclosed by the specification is SEQ ID NO: 1 which has a defined core 6 amino acid sequence that may optionally be flanked with 1-10 undefined amino acid residues on the N-terminus and 1-8 undefined amino acid residues on the C-terminus.

In claims involving chemical materials, generic formulae usually indicate with specificity what the generic claims encompass. One skilled in the art can distinguish such a formula from others and can identify many of the species that the claims encompass. Accordingly, such a formula is normally an adequate description of the claimed genus. However, a generic statement such as "a peptide of at least 6 amino acids of an amino acid sequence selected from the group consisting of SEQ ID NO: 2, 3 and 20-39" or "a peptide or peptide derivative having a length of 6 to 25 amino acids which exhibits a specificity or/and affinity which is essentially equivalent to that of the peptide (a) and includes anchor positions for binding to alleles of MHC class II molecules DR3 or DR4" recited in the instant claims does not describe the claimed peptide/derivative, except by the property of containing at least 6 amino acid residues from one of SEQ ID NO: 2, 3 or 20-39 or being a peptide or derivative thereof that exhibits some type or degree of specificity or/and some type or degree of affinity and includes anchor residues for binding to the recited alleles of HLA-DR3 or HLA-DR4. It does not specifically define any of the peptides/derivatives that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others, other than in the former case, that they comprise at least 6 amino acid residues found in one of SEQ ID NO: 2, 3 or 20-39, and in the latter case that they contain anchor residues for binding to an allele of HLA-DR3 or HLA-DR4 recited in the instant claims. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. In addition, a definition by function does not suffice to define the genus because it is only an indication of what the property the peptide has, rather than what it is. See Fiers, 984 F.2d at 1169-71, 25 USPQ2d at 1605-06. It is only a definition of a useful result rather than a definition of what achieves that result. Many such species may achieve that result. The description requirement of the patent statute requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See In re Wilder, 736 F.2d 1516, 1521, 222 USPQ 369, 372-73 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin [e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate."). Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material.

There is no disclosure of a genus of (1) peptide consisting of between 6 and 25 amino acids comprising at least 6 amino acids of an amino acid sequence selected from the

group consisting of SEQ ID NO: 2, 3 and 20-39, including those wherein the peptide includes anchor positions for binding to alleles of MHC class II molecules DR3 and DR4, other than the full length sequences, (2) a peptide or derivative thereof with between 6 and 25 amino acids which exhibits a specificity or/and affinity which is equivalent to that of the peptide in "(1)", and includes anchor positions for binding to alleles of MHC class II molecules DR3 or DR4 recited in the instant claims (3) pharmaceutical compositions of all the peptides/peptide derivatives aforementioned herein. One of ordinary skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus as broadly claimed.

Applicant's arguments in the amendment filed 12/10/02 have been fully considered but they are not persuasive.

The Applicant's position (on pages 5-6 of the said amendment) is that the rejection is based primarily upon the perceived failure to provide working examples and that all of SEQ ID NO: 10-39 fulfill the claimed length features and that Examples 1.4, 4 and 5 disclosed in the instant specification provide concrete examples of peptides that fall within the scope of the present claims.

It is the Examiner's position that that the rejection stands for the reasons of record enunciated above. In addition, the peptides disclosed in Example 1.4 of the instant specification are 20-mer peptides of SEQ ID NO: 1, those disclosed in Example 4 are 20-mer peptides and those disclosed in Example 5 are SEQ ID NO: 5-18 which are 12-mer, 14-mer, 18-mer and 20-mer peptides of SEQ ID NO: 2.

9. Claims 46-54 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for making and/or using a peptide with the sequence of one of SEQ ID NO: 2, 3 or 20-39, does not reasonably provide enablement for making and/or using an isolated peptide/derivative and pharmaceutical composition, thereof the: (1) peptide consisting of between 6 and 25 amino acids comprising at least 6 amino acids of an amino acid sequence selected from the group consisting of SEQ ID NO: 2, 3 and 20-39, that are not one of SEQ ID NO: 2, 3 or 20-39, including those wherein the peptide includes anchor positions for binding to alleles of MHC class II molecules recited in the instant claims, (2) peptide or derivative thereof with length between 6 and 25 amino acids which exhibits a specificity or/and affinity which is equivalent to that of the peptide in "(1)", and includes anchor positions for binding to alleles of MHC class II molecules recited in the instant claims. The specification has not enabled the breadth of the claimed invention in view of the teachings of the specification because the claims encompass peptides of between 6 and 25 amino acid residues in length which contain at least 6 amino acid residues, potentially in non-contiguous order, from one of SEQ ID NO: 2, 3 or 20-39, and peptides of between 6 and 25 amino acid residues in length which are comprised of undisclosed amino acid residues other than anchor residues for binding to any the aforementioned HLA class II molecules, or any peptide which exhibit a specificity or/and affinity which is equivalent

to that of the aforementioned peptides which contain at least 6 amino acid residues from SEQ ID NO: 2, 3 or 20-39 and includes anchor positions for binding to the said alleles MHC class II, and those derivative peptides which only contain 6 amino acid residues or a number not consistent with binding to MHC class II, i.e., are not long enough. Peptides with the same specificity/and or affinity encompass peptides of sequence unrelated to the claimed peptides. The state of the art is such that it is unpredictable in the absence of appropriate evidence whether the claimed invention can be made and or used. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

The specification discloses SEQ ID NO: 2, 3 and 20-39 (especially sequence listing and Figures 1 and 2), but no peptides or peptide derivatives of at least 6 amino acids and up to 25 amino acids from one of SEQ ID NO: 2, 3 and 20-39, other than SEQ ID NO: 4-18 which are 12-mer, 14-mer, 18-mer and 20-mer peptide subsequences derived from SEQ ID NO: 2 (especially page 38 and sequence listing). The specification does not disclose the definition of "a specificity or/and affinity" which is equivalent to that of the aforementioned peptides which contain at least 6 amino acid residues from SEQ ID NO: 2, 3 or 20-39, and which contains anchor residues for binding to the said class II MHC molecules. The specification discloses the term "essentially equivalent specificity or/and affinity of binding to MHC molecules" includes an improved binding specificity or/and affinity compared to the amino acid sequences SEQ ID NO: 2, 3 or 20-39 (especially page 8 at the second full paragraph). The specification further discloses that the term peptide derivatives includes peptides in which one or several amino acid residues have been derivatized by a chemical reaction (especially page 8 at the last paragraph). The specification discloses that an object of the invention is to provide new auto-reactive peptides which react with T cells from type I diabetics, and that this object is achieved by peptides or derivatives which bind analogously which are suitable for the detection, isolation, proliferation, anergization or/and elimination of auto-reactive T cells (especially paragraph spanning pages 3 and 4). The specification discloses, on page 7 of the instant specification, at the last paragraph that "anchor position" means an amino acid residue essential for binding to an MHC molecule and in particular to an MHC molecule of classes DR3, DR4 or DQ. The specification further discloses at lines 8-10 of the last paragraph that the anchor positions for the DRB10401 binding motive [motif] are given in Hammer et al., Cell 74, 1993, pp 197-200.

Evidentiary reference Rammensee et al (Immunogenetics, 1995, of record) teaches that peptides of more than 9 amino acid residues in length bind to MHC class II molecules. The length of the peptide is important for binding to HLA (along with the presence of anchor (or "motif") amino acid residues present within the peptide). An undue amount of experimentation would be involved in determining shorter peptides from the many possibilities that would be capable of binding to the recited alleles, and it is unpredictable if those consisting of only 6 amino acid residues would be capable of binding at all. In addition, the minimum amount of peptide required to span the

binding groove and make favorable contacts may be dependent upon the sequence of the peptide itself since different amino acid residues have different physicochemical properties, and may be dependent upon the identity of the additional amino acids, since these residues may make a negative contribution to binding. Rammensee et al further teach that epitope prediction is not as easy for class II ligands as for class I ligands because the anchors are more degenerate in their specificity. Rammensee et al teach the need for algorithms based upon side chain contribution of each amino acid residue at each position in the peptide ligand, and the teaching of Hammer et al referred to by Rammensee et al and also by the Applicant's amendment to the specification -to incorporate a table from Hammer et al-(page 2 of Applicant's amendment filed 1/4/02) is for one allele of HLA-DR4, Drβ1*0401. In addition, the specification does not disclose the anchor residues for binding to HLA-DRβ1*1601, and it is not clear if the said anchor residues were known by the skilled artisan at the time the invention was made.

Evidentiary reference Smilek et al (IDS reference "AN") teach that a single amino acid change in an autoreactive peptide from myelin basic protein confers the capacity to prevent rather than induce the autoimmune disease EAE. Accordingly, there is a high level of unpredictability in designing/selecting sequences that would still maintain function, and applicant does not provide direction or guidance to do so. Because of this lack of guidance, extended experimentation that would be required to determine which substitutions/deletions/additions or permutations of amino acids would be necessary to provide the desired activity. In other words, since it would require undue experimentation to identify amino acid sequences that have functional activity, it would require undue experimentation to make and use the corresponding peptides. Therefore, undue experimentation would be required to determine what peptides could or could not be used in the claimed invention.

There is insufficient guidance in the specification as to how to make and/or use the instant invention. Undue experimentation would be required of one skilled in the art to practice the instant invention. The enablement provided by the specification is not commensurate with the scope of the claims. See In re Wands 8 USPQ2d 1400 (CAFC 1988).

Applicant's arguments in the amendment filed 12/10/02 have been fully considered but they are not persuasive.

It is the Applicant's position (beginning on page 8, last paragraph of the said amendment) that the enablement rejection is based on a number of the same issues already raised in the previously discussed rejections and therefore, relies on previous comments for the overlapping bases of rejections. Applicant's comments regarding Ngo et al are moot in light of the new rejection.

It is the Examiner's position that the instant rejection (as well as the previous rejections of record) speaks to the factors of (1) quantity of experimentation, (2) breadth of the instant claims, (3) lack of working examples,(4) state of the prior art, and (5) unpredictability as noted in the prior rejections of record. It is the Examiner's further position that peptides with the same specificity/and or affinity encompass peptides of unrelated sequence with the claimed peptides. It is the Examiner's further position that evidentiary reference Smilek et al teach that a single amino acid substitution in a peptide can make a critical difference in functional activity of the said peptide and evidentiary reference Rammensee et al teach the importance of length of a peptide in binding to class II MHC and that positions other than the anchor positions are important for binding.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 46-48 and 49-53 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 95/07992 (of record) as evidenced by Rammensee et al (Immunogenetics, Vol. 41, 178-228, 1995, of record).

During patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater , 162 USPQ 541, 550 - 51 (CCPA 1969).

WO 95/07992 teaches a 20-mer polypeptide of sequence AALGIGTDSVILIKCDERGK. The art peptide includes anchor residues for binding to the HLA-DR B1*0101 allele as evidenced by Rammensee et al (bolded). WO 95/07992 teaches the peptide linked to a label, i.e., a marker, that is a radioisotope, a lectin, a drug, or a toxin. WO 95/07992 teaches that lectins can stimulate T cells, i.e., are an accessory stimulating component. WO 95/07992 teaches pharmaceutical administration of the said peptide in pharmaceutically acceptable carrier(s). WO 95/07992 teaches that peptides from gad having at least one determinant for binding to T-cell MHC receptor can be produced or chemically synthesized (especially claims 1, 15, 18, 26 and pages 17, 18 and 27).

With regard to the instant claims, the property of the peptide having anchor positions for binding to alleles of MHC class II molecules recited in the instant claims is considered an inherent property of the reference peptide, as is the property of exhibiting a specificity or/and affinity which is equivalent to that of the peptide "(a)". The claimed peptide appears to be the same as the art absent a showing of any differences. Since the Patent Office does not have the facilities for examining and comparing the molecule of the instant invention to those of the prior art, the burden is on applicant to show an unobvious distinction between the molecule of the instant invention and that of the prior art. See In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

The reference teachings anticipate the claimed invention.

Applicant's arguments filed 12/10/02 have been fully considered but they are not persuasive.

It is the Applicant's position (on page 8) is that Applicant has overcome the rejection of record because the claims no longer read upon the disclosure of WO 95/07992, that in "(a)" of the claims, the recitation no longer includes SEQ ID NO: 19.

It is the Examiner's position that although the Applicant has amended the claims to delete recitation of "SEQ ID NO: 19", base claims 46 and 48 recite the limitation "wherein the peptide derivative is not SEQ ID NO: 19". It is the Examiner's position that the '992 document teaches a peptide which is not SEQ ID NO: 19, but rather is amino acid residues 1-10 of SEQ ID NO: 19, and thus, the cited art reference still meets the claim limitations, i.e., section "(a)" ends with "or" and section "(b)" recites a peptide or peptide derivative...which exhibits a specificity or/and affinity which is equivalent to that of the peptide (a) and which includes anchor positions..."

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 54 is rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 95/07992 in view of U.S. Patent No. 5,750,114 and Smilek et al (Proc. Natl. Acad. Sci. USA, 88, 9633-9637, 1991, IDS reference "AN").

WO 95/07992 teaches a 20-mer polypeptide of sequence AALGIGTDSVILIKCDERGK. The art peptide includes anchor residues for binding to the HLA-DR B1*0101 allele as evidenced by Rammensee et al (bolded). WO 95/07992 teaches the peptide linked to a label, i.e., a marker, that is a radioisotope, a lectin, a drug, or a toxin. WO 95/07992 teaches that lectins can stimulate T cells, i.e., are an accessory stimulating component. WO 95/07992 teaches pharmaceutical administration of the said peptide in pharmaceutically acceptable carrier(s). WO 95/07992 teaches that peptides from gad having at least one determinant for binding to T-cell MHC receptor can be produced or chemically synthesized (especially claims 1, 15, 18, 26 and pages 17, 18 and 27).

With regard to the instant claims, the property of the peptide having anchor positions for binding to alleles of MHC class II molecules recited in the instant claims is considered an expected property of the reference peptide, as is the property of exhibiting a specificity or/and affinity which is equivalent to that of the peptide "(a)".

WO 95/07992 does not teach a pharmaceutical composition comprising an accessory stimulating component that is a cytokine.

U.S. Patent No. 5,750,114 discloses pharmaceutical compositions comprising peptides and further comprising immunomodulators such as IL-2, i.e., a cytokine, for human administration (especially column at lines). U.S. Patent No. 5,750,114 further discloses that the choice of an adjuvant for the species of the individual being vaccinated when that species is human, depends partially upon whether or not the adjuvant has been approved for human use by the FDA (especially column 4 at lines 23-45).

Smilek et al teach administration of autoreactive mbp peptides along with an adjuvant, complete Freunds adjuvant (CFA), i.e., an immunomodulator (especially Example 4), to mice.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have added an adjuvant as taught by Smilek et al such as IL-2 disclosed by U.S. Patent No. 5,750,114 to the gad peptide-containing pharmaceutical composition taught by WO 95/07992.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to immunomodulate an immune response to gad peptides in humans because U.S. Patent No. 5,750,114 discloses use of peptides comprising immunodulating cytokines, Smilek et al disclose administration of autoreactive mbp

peptides along with an adjuvant CFA in mice, WO 95/07992 teaches pharmaceutical compositions comprising autoreactive gad peptides for human usage and U.S. Patent No. 5,750,114 discloses pharmaceutical compositions comprising peptides and an immunomodulator such as IL-2, i.e., a cytokine, for human administration. In addition, one of ordinary skill in the art at the time the invention was made would have been aware that CFA adjuvant taught by Smilek et al was contraindicated for human usage due to the heat killed mycobacterial component in CFA.

Applicant's arguments filed 12/10/02 have been fully considered but they are not persuasive.

It is the Applicant's position (on page 8) that the same argument applies with regard to SEQ ID NO: 19 and the art peptide taught by WO 95/07992 as enunciated supra.

The Examiner's arguments supra apply herein.

14. No claim is allowed.

15. Applicant is reminded that upon consideration of a sequence search, SEQ ID NO. 2 and 3 are free of the prior art.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne DiBrino whose telephone number is 703-308-0061. The examiner can normally be reached on Monday and Thursday from 11 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan, can be reached on (703) 308-3973. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Marianne DiBrino, Ph.D.
Patent Examiner
Group 1640
Technology Center 1600
March 6, 2003

CHRISTINA CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600